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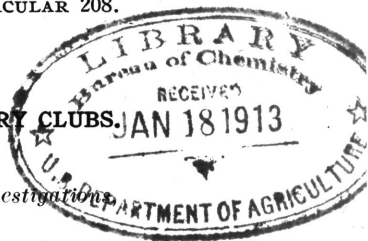
BUREAU OF ANIMAL INDUSTRY.—CIRCULAR 208.

A. D. MELVIN, CHIEF OF BUREAU.

THE ORGANIZATION OF GIRLS' POULTRY CLUBS.

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INTRODUCTION.

Statistics show that the loss due to the improper handling of eggs throughout the country is enormous, extending into many mil-

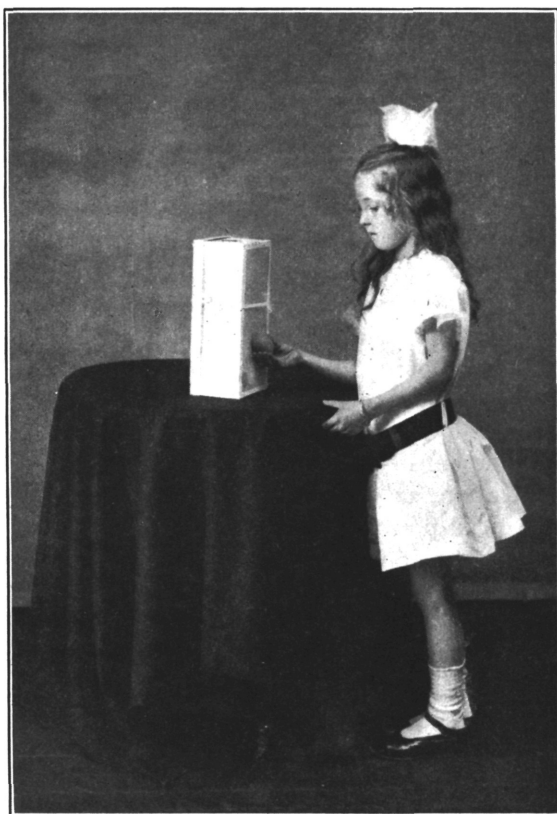


FIG. 1.—Testing eggs.

lions of dollars annually. It is an equally established fact that strictly fresh eggs command a higher price than those commonly

designated as store eggs, and if the farmer, who is the largest producer of this well-known perishable commodity, would take more care in selecting, grading, and marketing this product he would receive a price higher than the average market one for his eggs. On many farms throughout the country the money derived from the sale of poultry and eggs buys the groceries and clothing for the entire family. The money from this source may be substantially increased by establishing a private trade in eggs of good quality with hotels, restaurants, etc., in towns and cities.

The object of forming girls' poultry clubs is to give a better knowledge of the value and importance of the poultry industry and the marketing of a first-class, uniform product, to teach better methods of caring for the poultry and eggs, and to show the increased revenue to be derived from well-bred poultry where proper methods of management are pursued.

ORGANIZATION.

Throughout the year meetings should be held to discuss the different problems of poultry management, and at such meetings the Animal Husbandry Division of the Bureau of Animal Industry, United States Department of Agriculture, will have in attendance, whenever possible, one of its specialists on poultry to assist in solving such questions or problems as might arise and to give whatever help and information he can to the members on such subjects as selection of stock, candling demonstrations, etc. He will also assist in securing first-class markets for the sale of the poultry and eggs.

Each county club should hold an exhibition once a year, preferably in connection with the county fair, at which place a pair of the best chickens grown by each member should be placed on exhibition and entered to compete in the regular classes for premiums offered by the fair association, as well as for the special prizes offered for members of the girls' poultry clubs. An exhibit of the best dozen of eggs should also be made.

It will be well to have a president, one or more vice presidents, and a secretary. A simple constitution and by-laws should be adopted. It will be found profitable to subdivide the county organization by townships, schools, or school districts, and have local meetings at schoolhouses or at different girls' homes occasionally. Each club should adopt the following general regulations:

1. Girls joining the club must be between 10 and 18 years of age on January 1 of any given year. Special classes may be organized for older girls.

2. No girl shall be eligible to receive a prize unless she becomes a member of the club, and sets at least one sitting of 15 eggs.

3. Each member of the club must agree to study the instructions of the United States Department of Agriculture.

4. Each girl must plan to do her own work and keep strict account of all expenses, such as feed, labor (for which 10 cents an hour should be charged), sale of stock, etc.

PRIZES AND AWARDS.

The award of prizes on fowls and eggs shall be made according to the rules set forth in the American Standard of Perfection, published by the American Poultry Association.

It will be found best to distribute the prizes as widely as possible. Honor and recognition sometimes count for more than money. Badges, certificates, and diplomas given to the club members are often more appreciated than money and expensive premiums. When liberal amounts are offered for prizes, it will be well to give them in every township or school district, and offer premiums to the club that will make the highest records with five or ten in a team, dividing this premium into several different awards, depending upon the rank.

PUBLICATIONS.

The following publications will undoubtedly be of some assistance to club members in their poultry operations, and will be sent free upon application to the Secretary of Agriculture, Washington, D. C.:

Farmers' Bulletin 22. The Feeding of Farm Animals.

Farmers' Bulletin 51. Standard Varieties of Chickens.

Farmers' Bulletin 177. Squab Raising.

Farmers' Bulletin 200. Turkeys.

Farmers' Bulletin 234. The Guinea Fowl.

Farmers' Bulletin 236. Incubation and Incubators.

Farmers' Bulletin 287. Poultry Management.

Farmers' Bulletin 357. Methods of Poultry Management at the Maine Agricultural Experiment Station.

Farmers' Bulletin 374. Experiment Station Work. (Colony Houses.)

Farmers' Bulletin 390. Pheasant Raising in the United States.

Bureau of Animal Industry Bulletin 141. The Improvement of the Farm Egg.

Bureau of Animal Industry Circular 176. A System of Poultry Accounting.

Bureau of Animal Industry Circular 206. Hints to Poultry Raisers.

MANAGEMENT OF FLOCKS.

HOUSING THE POULTRY.

On almost any farm there can be fitted up, with very little, if any, cost for new material, a poultry house that will answer all the purposes of more expensive buildings for keeping poultry. The essentials to success in housing are fresh air, sunshine, dry floors, and a building that is free from drafts. In constructing a poultry house it is advisable to allow from $2\frac{1}{2}$ to 4 square feet of floor space per bird.

Figure 2 gives a plan for a poultry house 10 by 14 feet in size for not more than 50 hens which can be constructed at an expense of about \$20 for material. This house has one-half of the front open, and is adapted for southern conditions, but in localities where much snow or rain is apt to blow into the house or where the winters are severe it is advisable to insert a curtain of burlap or thin muslin which can be closed in cold

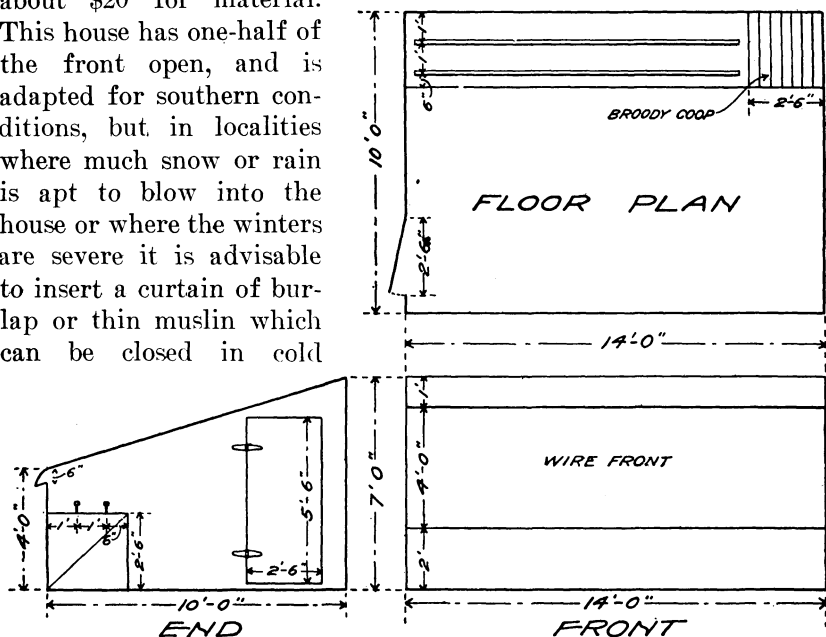


FIG. 2.—Plan of an inexpensive poultry house.

weather. If the ground is damp, it will be necessary to add a board floor; otherwise a dirt floor elevated a few inches above the ground level will be satisfactory. If desired, a cement floor of cheap and simple construction may be laid; such a floor is a good protection against rats. The plan shows a 6-inch shutter on the back just under the eaves, which is recommended for use in the South. This must be constructed so that it can be closed to prevent any draft on the hens in cold weather. The house should face toward the south. The nests may be placed directly under the dropping boards or on the walls of the house rather than on the floor.

The materials required for building the house shown in figure 2 are as follows:

Two pieces 4 by 4 inches by 10 feet, for sills.

Two pieces 4 by 4 inches by 14 feet, for sills.

Two pieces 2 by 4 inches by 10 feet, for plates.

Two pieces 2 by 4 inches by 14 feet, for plates.

Sixteen pieces 2 by 4 inches by 12 feet, for studs, rafters, and roosts.

One hundred and twenty square feet of boards 12 feet long, for ends.

Fifty-six square feet of boards for back.

Eighty-four square feet of boards for front and dropping boards.

One hundred and fifty square feet of boards for roof.

Two hundred and twelve linear feet of 2 by $\frac{1}{2}$ inch battens.

Total scantling, 226 feet b. m.

Total boards, 622 feet b. m.

Total lumber, 750 feet b. m.

Two pairs hinges.

One hundred and fifty square feet roofing paper.

Nails.

Fifty-six square feet poultry wire, 2-inch mesh.

Poultry netting, $\frac{3}{4}$ -inch mesh, can be used in localities where sparrows are troublesome.

Figure 3 shows a larger house of the same style of construction.

The foregoing plans for housing are merely suggestive, and any plan that conforms generally to the essentials laid down will be sufficient.

SELECTION OF STOCK.

The selection of stock is a matter of considerable importance, as a great deal of one's success or failure with poultry depends upon the individual specimens used to breed from. Care should be taken to select the early maturing, fast-growing pullets. Hens will not, as a rule, lay until they are well matured, consequently it can be readily seen that the slow-growing breeds will not begin to lay as soon as the former. A good index to a hen's ability to pay a profit over the cost of feed and labor is her ability to be continually on the move. It is advisable to keep but one breed of purebred fowls, as the product from a flock of the same variety is more uniform than that from a flock of mixed breeds or mongrel stock. It is advised that all pullets to be used as layers the following winter shall be hatched by April 15, and certainly not later than May 1, of the preceding spring.

FEEDING THE FLOCK.

It takes a healthy, well-fed flock to produce eggs. Fowls must not be allowed to become too fat, as but few eggs will be laid by hens in such condition. To prevent their getting overfat, it is best to

make them work for most of their feed by scratching in the litter, of which there should be about 4 inches on the floor. This litter can be of straw, leaves, or chaff, and should always be kept dry.

A good feed for egg production is one composed of corn, wheat, and oats, equal parts by measure. It is advisable to use home-grown grains whenever possible. In sections where corn and oats do not thrive, other grains can be used to good advantage; for example, a mixture of equal parts by measure of kafir corn, oats, and barley will produce good results. Scatter a small handful of this mixture for every three hens in the litter morning and noon, and give them all they will eat of it in a V-shaped trough at night. In the wintertime some green feed should be fed at noon; cabbage or mangel-wurzels, either chopped or whole, are good. Every few days

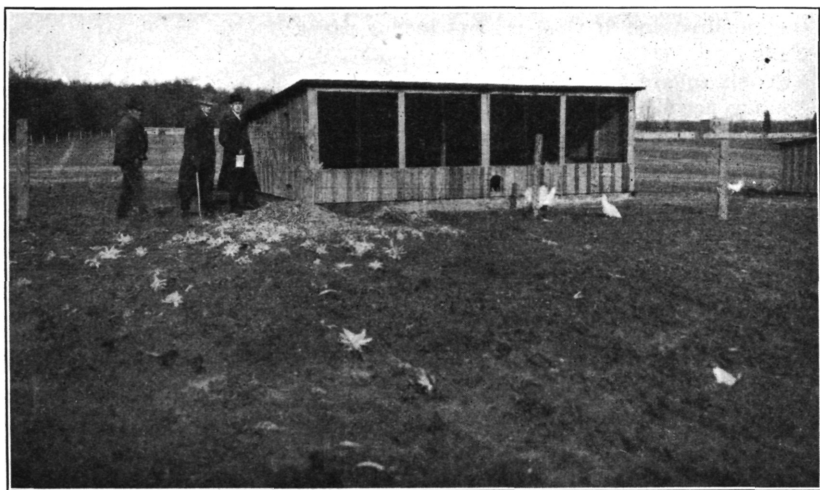


FIG. 3.—Open-front poultry house.

look in the litter carefully and see if the fowls are eating all the grain being given them; if not, reduce the quantity. Fowls that have to work for what feed they get seldom become overfat. Grit and oyster shells in a hopper should always be kept before them. The grit is used to grind their feed, and the oyster shell furnishes the lime for the eggshells. Be sure and keep water before them at all times. Birds that are laying drink much more water than those that are not laying. The water should be kept out of the direct rays of the sun. During the fall and winter months, when colds and roup are apt to appear among the poultry, it is advisable to add the amount of permanganate of potash which will remain on the face of a 10-cent piece to each gallon of drinking water. This mixture will often prevent and cure these troubles. Allow the fowls free range whenever possible, except when snow is on the ground.

METHODS OF HATCHING.

The period of time it takes to hatch eggs of the domestic hen is 21 days. There are two methods of incubation and brooding, namely, natural and artificial. In natural incubation and brooding the hen is allowed to sit on a nest of eggs and brood or mother the young chicks when hatched. The information contained on this subject is based on our belief that the average farmer has little use for an incubator or brooder unless he intends to hatch and rear chicks unusually early in the spring or in large numbers; therefore only the natural method of incubation and brooding will receive our attention at this time.

HOW TO SET A HEN AND HER CARE WHILE SITTING.

As the time approaches for the hens to become broody or sit, if care is taken to look in the nests it will be seen that there are a few soft downy feathers being left there by the hens; also, the hens stay longer on the nests when laying at this time, and on being approached will quite likely remain on the nest, ruffling up their feathers and pecking at the intruder. When it is noted that a hen sits on the nest for two or three nights in succession, she is ready to be transferred to a nest which should be prepared for her beforehand. This nest should be in a box and composed of straw, hay, or chaff for nesting material. Pack this material down firmly and shape a circular nest out of it which should be slightly deeper in the center than at the edges, as a nest so shaped will prevent the eggs from rolling out from under the hen and becoming chilled. Dust the hen thoroughly with insect powder. In applying the powder, hold the hen by the feet, head down, working the powder well into the feathers, giving special attention to regions around the vent and under the wings. The powder should also be sprinkled in the nest. The nest should be in some quiet, out-of-the-way place on the farm, where the sitting hen will not be disturbed. Move her from the regular laying nest at night. Handle her carefully in doing so. Put a china egg or two in the nest where she is to sit, and place a board over the opening so that she can not get off. Toward the evening of the second day, quietly go in where she is sitting, and leave some feed and water, and remove the board from the front or top of the nest and let the hen come off when she is ready. Should she return to the nest after feeding, remove the china egg or eggs and put under those that are to be incubated. In cool weather it is best to put not more than 10 eggs under a hen, while later in the spring one can put 12 to 15, according to the size of the hen. If several hens are sitting in the same room, see that they are kept on the nests, only allowing them to come off to get feed and water, which should be once a day.

TESTING THE EGGS.

Many eggs that are laid in the late winter and early spring are infertile. For this reason it is advisable to set several hens at the same time. After the eggs have been under the hen for seven days they should be tested to see whether they are fertile or infertile. Infertile eggs should be removed and used at home in cooking or for omelets, and the fertile eggs should be put back under the hen. In this way it is often possible to put all the eggs that three hens originally started to sit on under two hens, and reset the other hen again. For example: Thirty eggs are set under three hens at the same time, 10 under each. At the end of 7 days we find on testing the eggs that 10 are infertile, which leaves us 20 eggs to reset, which we do by putting them under two hens, and have the remaining one to set over again, after she has set only 7 days.

A good homemade egg tester or candler can be made from a large shoe box or any box that is large enough to go over a lamp, by removing an end and cutting a hole a little larger than the size of a quarter in the bottom of the box, so that when it is set over a common kerosene lamp the hole in the bottom will be opposite the blaze. A hole the size of a silver dollar should be cut in the top of the box to allow the heat to escape. (See fig. 4.) An infertile egg, when held before the small hole with the lamp lighted inside the box, will look perfectly clear, the same as a fresh one, while a fertile egg will show a small dark spot, known as the embryo, with a mass of little blood veins extending in all directions if the embryo is living. If dead, if the egg has been incubated for at least 36 hours, the blood settles away from the embryo toward the edges of the yolk, forming in some cases an irregular circle of blood, known as a blood ring. Eggs vary in this respect, some showing only a streak of blood. The testing should be done in a dark room.

MARKETING EGGS.

When ready to sell the eggs grade them according to size and color. Make them into the following classes: Large white eggs, large brown eggs, small white eggs, and small brown eggs. A uniform lot will, as a rule, command a higher price than a mixed one. When taking them to town keep them covered and out of the direct rays of the sun. The following rules should be followed in the care of eggs:

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.

PRODUCE INFERTILE EGGS.

An infertile egg is one that is laid by a hen that has not been allowed to run with a male bird, or by a hen from which a male bird has been separated from three days to three weeks. Experiments have shown that the time varies. In most cases, however, 14 days is long enough to wait for the eggs to become infertile after the male bird is removed from the females. It is impossible to hatch an in-

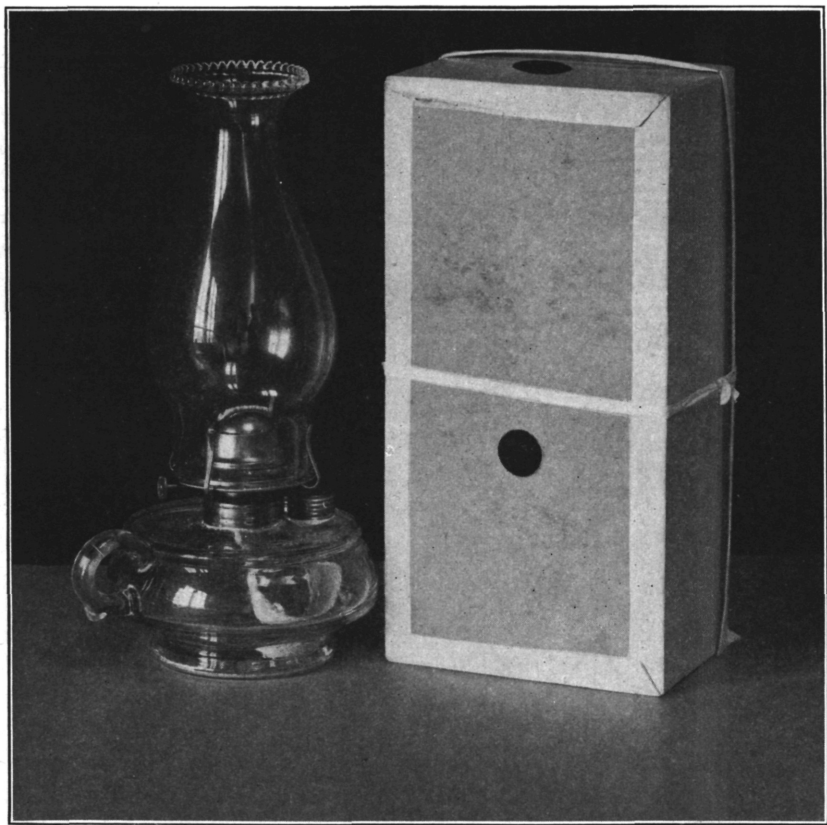


FIG. 4.—A homemade egg tester.

fertile egg or to cause a blood ring to form in one. It also keeps in good condition in temperatures that will cause fertile eggs to rot.

A fertile egg is just the opposite of the infertile in many respects. It is the egg that is produced from hens that are running with male birds, although occasionally there are hens running with male birds that lay infertile eggs. This is often the case with hens that are confined in yards and runs, and birds that do not have green feed, or those that are overfat. The fertile egg is the egg from which the

chick is hatched, and the egg that spoils so quickly when subjected to the ordinary methods of handling on the farm and when marketed in the hot summer months under adverse conditions.

Moral: When eggs are not desired for hatching purposes, produce the infertile egg. Hens will lay as many eggs without having a male bird with them as they will if allowed to run with one. Sell, kill, or confine all male birds as soon as the hatching season is over.

DISPOSITION OF SURPLUS BIRDS.

When the young chicks are hatched they should be marked in some way, so that it can be known just what pen or pens they are from, if birds from certain pens are to be kept for breeding or other purposes; also to be able to tell the year in which the birds are

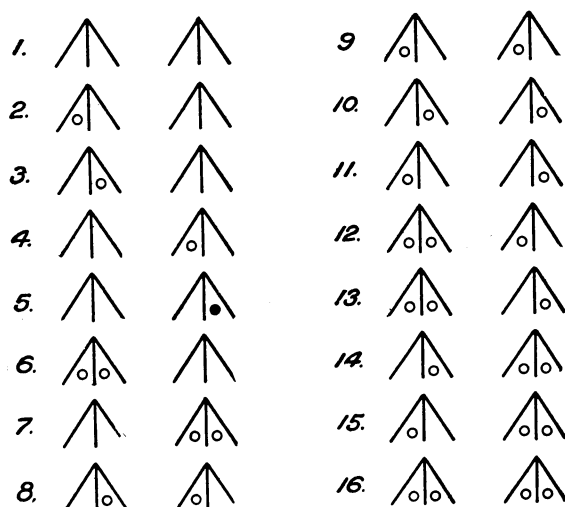


FIG. 5.—Toe marks for chicks.

hatched. A good method of marking the chicks is to punch a small hole in the web of the foot between the toes with a harness punch, using the small-size punch. Figure 5 shows a system of marking with 16 different combinations that can be used for this purpose.

It is advisable to market the old hens in the summer as soon as the second laying season is over, as hens over 2 years old rarely lay as many eggs as they do in their pullet and yearling seasons. If they have been toe-punched, it will be an easy matter to tell exactly in what year they were hatched. Before sending the old hens, males, and young cockerels to market, they should be confined in a small pen for at least two weeks, to increase their weight and put on fat, and should be given all the feed they will consume of a mixture of 2 parts corn meal, 1 part middlings or low-grade flour, and

1 part bran, adding enough water to make a crumbly mash. Water or skim milk should also be kept before them during this fattening period.

SUGGESTIONS TO MEMBERS.

To rid the poultry house of mites, spray the pen, the roosts, and the dropping boards with kerosene or crude petroleum at least once a week from the time warm weather sets in in the spring until cold weather comes in the fall. Those having lime and sulphur compound could use it to good advantage for destroying lice and mites in the poultry house.

Market all cockerels, except those intended for breeding purposes, as soon as they attain broiler size, for they will pay a larger profit at that time than if held until fall when the market becomes overcrowded.

It is urged that club members strictly adhere to the following rules in handling their poultry and eggs:

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill, or confine all male birds as soon as the hatching season is over.

The work of organizing the girls' poultry clubs herein described is to be conducted by the Bureau of Animal Industry in cooperation with the Farmers' Cooperative Demonstration Work of the Bureau of Plant Industry.

Approved:

JAMES WILSON,

Secretary of Agriculture.

WASHINGTON, D. C., *October 3, 1912.*

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